

AMENDED

PROGRAMMATIC BIOLOGICAL OPINION

FOR THE

WYOMING BUREAU OF LAND MANAGEMENT

LANDER RESOURCE MANAGEMENT PLAN AND

BUREAU CONSERVATION MEASURES

AND THEIR EFFECTS

TO THE

DESERT YELLOWHEAD (*Yermo xanthocephalus*)

**U.S. Fish and Wildlife Service
Wyoming Ecological Services Office
Cheyenne, Wyoming**

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AMENDED PROGRAMMATIC BIOLOGICAL OPINION

DESCRIPTION OF THE PROPOSED ACTION

The Proposed Action examined in this consultation is the continuation of management according to the existing U.S. Bureau of Land Management (Bureau) Lander Resource Management Plan (RMP) as well as the Bureau's commitment to the conservation measures listed in the Appendix. RMPs are used by the Bureau to guide and control future actions and set standards upon which future decisions on site-specific activities will be based. RMPs only establish general management policy on a broad scale. They are not used to make decisions that commit resources on a small scale such as on specific parcels of land. RMPs also identify desired outcomes, also known as "desired future conditions". These outcomes are expressed in RMPs as goals, standards, objectives, and allowable uses and actions needed to achieve desired outcomes. These are often referred to as RMP decisions or resource allocations. It is upon these RMP decisions or resource allocations that the effects determinations in this amended biological opinion (BO) are based.

As per section 7 of the Endangered Species Act of 1973 (Act), as amended (50 CFR §402.13 and §402.14), the Bureau will conduct site-specific consultation with the Service prior to authorization of any actions authorized under the Lander RMP which "may affect" the desert yellowhead (*Yermo xanthocephalus*). These future consultations will provide a means for site-specific analysis and documentation of impacts to the desert yellowhead or its designated critical habitat.

The Wyoming RMP analyzed in this BO is the Lander (BLM 1987) plan. The area covered by the Bureau's Lander RMP includes portions of Hot Springs, Fremont, Sweetwater, Natrona, and Carbon Counties in central Wyoming, including 2.5 million acres of surface lands and 2.7 million acres of federal mineral estate. The area of the proposed action covers approximately 360 acres of Federal lands managed by the Bureau along Cedar Rim approximately 6 miles north of Sweetwater Station in Fremont County, Wyoming. Vegetative communities across the area of the proposed action include sparsely-vegetated cushion plant communities associated with shallow soils on low slopes, rim margins, colluvial fans, and bottoms within deflation hollows. Within this area are topographic features (outcroppings, cliffs, hills) influencing the microscale dynamics of local winds, erosional processes, hydrologic processes needed to maintain the integrity of the shallow hollows providing desert yellowhead habitat, as well as the sheet wash that provides increased moisture to the habitat.

A description of activities of the Lander RMP was contained in the Statewide Programmatic Desert Yellowhead Biological Assessment (BLM 2004) and is described below.

Description of Activities Described under the Lander RMP and Committed Conservation Measures

The following discussion describes the Wyoming Bureau RMP program which may have potential adverse effects to the desert yellowhead. A Conservation Strategy (Appendix) was included in the Programmatic Desert Yellowhead BA. The Bureau has committed to implementing the Conservation Measures listed in the BA (Appendix). Therefore, the Service has evaluated the implementation of these conservation measures as part of the proposed action.

Table 2. Desert Yellowhead “Likely to Adversely Affect (LAA)” Determination from Biological Assessment¹

Activity Type	Determination
Livestock Grazing (and Wild Horse) Management	Likely to Adversely Affect

Livestock Grazing (and Wild Horse) Management.

Program Description. Categories under this program include livestock management activities, range management, fencing, predator/pest management, water management, detrimental impacts management, and lease management. Seven wild horse herd management areas have been designated in the Lander Field Office and are also managed under this program. The desert yellowhead site falls within the Dishpan Butte Wild Horse Herd Management Area.

Activities under this program include converting to new types of livestock; authorizing livestock grazing, and adjusting season of use, distribution, kind, class, and number of livestock. One method that livestock producers can use to change the distribution of livestock is to provide salt or mineral supplements in specified areas. Range management activities include using prescribed fire, vegetation manipulation projects, changing composition of existing vegetation, using noxious weed control, using mechanical or biological vegetative treatments to improve forage production, using heavy equipment, and herbicide treatment of sagebrush. Fencing activities include fence construction and repair, design and implementation of grazing systems, and building livestock exclosures for important riparian habitat. Predator/pest management includes controlling predators or pests of livestock operations. Livestock water management activities include the development of reservoirs, springs, pipelines, and wells, and providing access to these developments. Managing detrimental impacts include documenting, treating, and preventing resource damage. Potential detrimental impacts include the degradation of stream banks, the introduction of noxious weeds, increasing soil erosion, and a reduction in cottonwood tree recruitment. Lease management activities include conducting monitoring studies, performing project work to enhance and improve riparian zones, designating stock trails, managing leases, developing management plans and agreements, and canceling, or changing livestock driveways. The Bureau has committed to meeting the range management standards in the *Standards for Healthy Rangelands and Guidelines for Livestock Grazing Management for Public Lands* (Appendix B, BLM 2003) while managing their lands for livestock grazing.

Two livestock grazing management study areas have been designated within the Lander Field Office, including the Gas Hills Study Area and the Green Mountain Study Area. The desert yellowhead site occurs within the Green Mountain Study Area. Rangeland program summaries for these study areas are included in the RMP. Grazing allotments have been grouped in three categories: M (maintain), C (custodial), and I (improve). Recommendations were provided in each category for the intensity of grazing management, including multiple-use resource management objectives, needs for range improvement and monitoring, and actions needed to improve and maintain rangeland condition and productivity. Under this RMP, present management will continue until the results of monitoring are available. Management actions

¹ Effects determination for the Off-Road Vehicle Management Program was changed to "Not Likely to Adversely Affect" by a Memorandum from the Bureau dated May 10, 2005 after the road leading to the desert yellowhead site was closed to ORV travel).

based on all available data will then be implemented in the allotments, beginning with areas that need the most improvement.

The Bureau has committed to a number of conservation measures to minimize the impacts of livestock grazing (Appendix). Among these, the Bureau is committed to: (1) not increasing current permitted livestock stocking levels, (2) not approving the location of mineral supplements or additional water sources, wild horses, or wildlife on public lands within 2 miles of the desert yellowhead site, (3) not allowing intentional herding of livestock within 0.5 miles of the desert yellowhead site, and (4) not conducting wild horse management actions within desert yellowhead habitat.

STATUS OF THE SPECIES

Species Description

The desert yellowhead is a tap-rooted, glabrous (hairless) perennial herb with leafy stems to 12 inches in height. The leafy, leathery leaves are alternate, lance-shaped to oval, 1.5 to 10 inches long and often folded along the midvein. Leaf edges are smooth or toothed. Flower heads are many (25 to 180) and crowded at the top of the stem. Each head contains four to six yellow disk flowers (ray flowers are absent) surrounded by five yellow, keeled involucre (whorled) bracts (small leaves beneath the flower). The pappus (attached to the top of the seed) consists of white bristles.

Life History

The desert yellowhead flowers from mid-June to August and may flower a second time in September. The start and end of flowering, as well as the duration of flowering, vary between years and appears to be dependent upon temperature and other climatic variables. Fruits have been observed from mid-July to early September, but do not persist after the flower has dried and bracts ruptured (Heidel 2002).

The desert yellowhead appears to be an obligate outcrosser (cannot self-pollinate) (Heidel 2002), and is likely pollinated by visually-oriented insects attracted to the yellow flowers (Dorn 1991). Several Hymenopterans (order including sawflies, ants, bees, and wasps) have been collected from desert yellowhead plants, and small skipper butterflies noted on them, although the identity of these potential pollinators is not currently known (Heidel 2002). No work has been done to document the status of these potential pollinators locally. However, of the skippers known from Fremont County that most likely use desert yellowhead habitat, all have Nature Conservancy Global Ranks of G-4 (apparently secure globally) and G-5 (demonstrably secure globally) with no special conservation or management needs identified by Opler et al. (1995).

Fertig (1995) considered the desert yellowhead to be a classic "K" selected species characterized by a long-lived perennial growth form, adaptation to severe habitats, and low annual reproductive output. He reported that approximately 31 percent of all plants observed in demographic monitoring plots were in flower or fruit. Seedlings and vegetative rosettes comprised the remaining 69 percent of the population. Scott (2000) surveyed desert yellowhead plants from 1995-2000 but found a lower percentage of flowering plants. Scott (2000) found that the percentage of flowering plants averaged just 14 percent over 5 study years with a range of

4 to 24 percent of the plants flowering. Fertig (1995) assumed plants to be long-lived. However, observations of marked plants suggested that some fruit-bearing rosettes do not survive to flower again the following season (Fertig 1995).

The age of desert yellowhead plants cannot be determined at any stage in their life cycle, though there are discrete stage classes that tend to correspond with age. Even the seedlings may retain cotyledons for two years. The plant's non-random, clumped distribution pattern suggests that dispersal distances are probably low (Fertig 1995, Heidel 2002).

Each plant has 1 to many rosettes, and any or none of these may produce a flowering stalk in any given year. Each plant flowers more than once over its life cycle (iteroparity). Each flower produces 4 to 6 seeds, and the number of flowers per plant ranges from 25-180, for a total of 100 to 1080 seeds potentially produced per plant. In typical years, germination of seedlings is probably extremely low or absent (Dorn 1991). Germination and establishment is probably episodic and dependent on suitable moisture conditions, and dependent on a natural seedbank (Heidel 2002).

The fruits of the desert yellowhead are single-seeded achenes (dry fruit) with a parachute-like pappus of slender bristles. At maturity, the fruits are exposed to the wind, which may disperse the seed over long distances. However, the clustered distribution pattern of the desert yellowhead, often along colluvial (rock debris) washes, suggests that dispersal distances are short and perhaps fostered by water erosion (Heidel 2002).

The desert yellowhead is restricted to shallow deflation hollows in outcrops of Miocene sandstones of the Split Rock Formation. These hollows have been shaped by the microscale dynamics of local winds, as well as erosional processes, in an unstable portion of the landscape on sites lacking desert pavement and with low vegetation exposed to strong wind (Bynum 1993). Within the hollows, desert yellowhead occurs on low slopes, rim margins, colluvial fans, and bottoms at elevations generally ranging from 6,720 to 6,760 feet (ft) (Heidel 2002).

The desert yellowhead grows in recent soils derived from sandstones and limestones of the Split Rock Formation at its junction with the White River Formation (Heidel 2002). Bynum (1993) found these soils to be shallow, loamy soils of the Entisol order that can be classified as a coarse-loamy over sandy-skeletal mixed Lithic Torriorthent. In contrast, the surrounding sagebrush community occupies deep sandy loam of the Aridisol order. The surface stratum is mildly alkaline with little organic matter, while subsurface layers have no accumulation of humus, clay, gypsum, salts, or carbonates (Bynum 1993).

The shape and orientation of the wind-excavated hollows may allow for accumulation of moisture from sheet wash coming off adjacent areas, so the hollows may be more mesic (moist) than surrounding areas. The vegetation of these sites is typically sparse, with vegetative cover often as low as 10 percent, and consists primarily of low-cushion plants and scattered clumps of *Stipa hymenoides* (Indian ricegrass). Species common to these communities include *Arenaria hookeri* (Hooker's sandwort), *Astragalus kentrophyta* (thistle milkvetch), *Hymenoxys acaulis* (stemless hymenoxys), and *Phlox muscoides* (squarestem phlox) (Fertig 1995). A more complete list of frequently associated species can be found in Heidel (2002).

Population Dynamics

Very little is known regarding the population dynamics of the desert yellowhead. A permanent survey grid is now in place, and has facilitated an annual census of all known individuals. The total population size appears to be stable and has varied from 9,293 to 13,244 individuals during the time of census (1995-2003) (R. Scott, Central Wyoming College Herbarium, in litt. 2004). Scott has hypothesized that some of the changes in population numbers could be in response to yearly differences in precipitation over the study period. Additional information regarding desert yellowhead population dynamics is clearly needed.

Status and Distribution

On March 14, 2002, the desert yellowhead was listed under the Act as threatened (USFWS 2002). Currently it is known from one large subpopulation at the base of Cedar Rim and two smaller subpopulations within 0.25 mile. These subpopulations are located entirely on Federal land managed by the Bureau (Dorn 1991). The desert yellowhead is currently known from a single population with plants widely scattered over an area of 50 acres. Originally, Dorn observed approximately 500 plants within 1 ha (2.5 ac) in 1990 (Dorn 1991). However, this was a visual estimate, likely weighted toward flowering plants, and is not considered an actual estimate of the population size and should not be considered when assessing population trends over time.

Surveys conducted between 1990 and 1994 failed to locate additional populations of desert yellowhead on outcrops of the Split Rock, White River, Wagon Bed, and Wind River formations in the Cedar Rim and Beaver Rim areas of southern Fremont County (Fertig 1995). No additional populations were located during follow-up surveys conducted during 1997 along Beaver Rim in Fremont and Natrona Counties, as well as in the Shirley Basin in Carbon County (Heidel 2002). Additional surveys were subsequently conducted during 2001 in segments of Cedar Rim and Beaver Rim and surrounding areas. Similar to previous survey efforts, new populations were not discovered during these surveys as well (Heidel 2002).

Threats

The desert yellowhead is vulnerable to extinction from randomly occurring, catastrophic events, as well as from small-scale habitat degradation, due to its small population size and limited geographic range. The species is characterized by a long-lived perennial growth form, adaptation to unique habitats, and low annual reproductive output. This low reproductive output makes the species increasingly vulnerable to extinction due to a chance event if the population size declined. It is unlikely that the species would exhibit a high rate of population growth even if conditions improved after such an event. Other identified potential threats to the desert yellowhead population include destruction or trampling of plants or modification of habitat from oil and gas development, ORV use, and livestock grazing (USFWS 2004c). Invasive weeds if they were to become established at the desert yellowhead site could potentially compete with desert yellowhead plants for space, nutrients, or water.

ENVIRONMENTAL BASELINE

Regulations implementing the Act (50 CFR 402.02) define the environmental baseline as the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed State or Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation process.

The action area is defined at 50 CFR 402 to mean “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action”. For the purposes of this consultation, the Service defines the action area to include approximately 360 acres of habitat identified as necessary for the desert yellowhead located on public lands managed by the Bureau along Cedar Rim approximately 6 miles north of Sweetwater Station in Fremont County, Wyoming. Historic activities within or adjacent to this area include livestock grazing, mining, rare plant monitoring, ORV use, and trail establishment. Since the listing of the desert yellowhead in 2002, no other formal Section 7 consultations have been completed in response to any authorized Bureau activities' effects to the desert yellowhead.

Status of the Desert Yellowhead Within the Action Area

The desert yellowhead is currently known from only one population in the world located entirely on Federal land managed by the Bureau of Land Management (BLM) (Dorn 1991). This population is contained entirely within the action area and is made up of one large subpopulation at the base of Cedar Rim and two smaller subpopulations within 0.25 mile of that area with plants widely scattered over an area of 50 acres. Originally, Dorn (1991) observed approximately 500 plants within 2.5 acres. However, this was a visual estimate, likely weighted toward flowering plants, and is not considered an actual estimate of the population size and should not be considered when assessing population trends over time.

Detailed census efforts conducted from 1995 to 2003 indicated that the desert yellowhead population size does fluctuate annually but overall appears to be fairly stable and has varied from 9,293 to 13,244 individuals during the time the census was conducted (R. Scott, Central Wyoming College Herbarium, in litt. 2004) (BLM 2004). The fluctuations in plant numbers appear to be due to natural factors such as precipitation level rather than human-caused factors.

Factors Affecting the Desert Yellowhead Environment Within the Action Area

The desert yellowhead is vulnerable to extinction from randomly occurring, catastrophic events, as well as from small-scale habitat degradation, due to its small population size and limited geographic range. As described by Fertig (1995), the species is characterized by a long-lived perennial growth form, adaptation to severe habitats, and low annual reproductive output. This low reproductive output makes the species increasingly vulnerable to extinction due to a chance event if the population size declined. It is unlikely that the species would exhibit a high rate of population growth even if environmental conditions improved after such an event.

Livestock grazing currently occurs at the desert yellowhead site which is part of the Big Pasture grazing allotment. Livestock grazing may detrimentally impact individual desert yellowhead

plants through crushing, trampling, or incidental grazing parts of the plants by livestock. Livestock trails may redirect surface runoff and create areas of sheet and rill erosion which may be colonized by desert yellowhead plants. The permittees who currently graze cattle in the Big Pasture allotment are aware of the presence of desert yellowhead and have discussed with Bureau specialists at the Lander field office the effects and impacts of grazing on the plant population. To date, the permittees have cooperated with the Bureau in such matters as restricting mineral supplements within 2 miles of the site and avoiding supplemental livestock feed, and not herding their cattle within 0.25 mile of the desert yellowhead site. Wild horse management activities, such as temporary gathering/holding facilities, could also cause damage to the plants and habitat if they were located at the desert yellowhead site. New construction of range improvement projects, such as fencing, water developments, and vegetation manipulation projects, are discretionary and subject to the Bureau's surface disturbing mitigation guidelines. In addition, the Bureau is committed to not permitting an increase in current permitted livestock stocking levels (BLM 2004).

To date, invasion of non-native species, particularly noxious weeds, has not been documented to have occurred at the desert yellowhead site. In the future, non-native species could be introduced through livestock grazing, or other activities.

EFFECTS OF THE ACTION

The Wyoming Lander RMP and supporting information provided by the Bureau for this consultation describes activities in the Bureau's Livestock Grazing program that are likely to adversely affect the desert yellowhead. The potential effects of this activity on desert yellowhead plants are described here.

Direct and Indirect Effects

Direct effects are effects that result directly or immediately from the proposed action on the species. For example, actions that would immediately remove or destroy habitat or displace the species from its habitat or an area would be considered direct effects. Indirect effects are effects that are caused by, or result from, the proposed action and occur later in time after the proposed action is completed. Potential effects could result from (1) direct damage to individual desert yellowhead plants, or (2) loss or alteration of habitat associated with the proposed action. The proposed action is the management of the Lander RMP area in Wyoming for up to 15 years. Since (1) there is such a lengthy time period for the life of the proposed action, (2) direct effects could occur under the proposed action for up to 15 years, and (3) the indirect effects resulting from the proposed action may be combined with direct effects or be sufficiently difficult to distinguish from direct effects. The two types of effects are not differentiated here but instead are discussed jointly in the following discussion.

Analysis for Effects of the Action

Livestock Grazing (and Wild Horse) Management.

Livestock grazing could have detrimental as well as beneficial effects to the desert yellowhead plants. The desert yellowhead population is in a grazing allotment pasture where trampling may occur as livestock casually move along trails while grazing or moving to water. The closest source of livestock water is about 2.5 miles away (BLM 2004). Scott (2000) noted signs of

moderate wild horse traffic adjacent to the habitat. Crushing, trampling or incidental grazing of desert yellowhead leaves, by livestock, wild horse, or wildlife does occur and may compromise the reproductive capacity of any given plant. However, these impacts at their current level do not appear to be affecting the desert yellowhead population as a whole. Occasional trampling may damage leaves or flowers, but it has been witnessed that the plant grows back if its roots are not damaged (BLM 2004). Desert yellowhead plants do not appear to be selectively grazed by cattle and are presumed to be unpalatable. Trampling and crushing of desert yellowhead plants by grazing animals occurs at the present time at a very low frequency. Any redirecting of water movement through the area by the establishment of animal trails may be favorable to desert yellowhead plants as the plants at times colonize these areas possibly taking advantage of the erosive sheet, wind, and rill processes occurring there. Desert yellowhead plants have existed with livestock grazing for at least 100 years. Grazing of the area by livestock, wild horses, or wildlife may be beneficial to desert yellowhead plants in that the grazing may remove competing palatable vegetation which would otherwise compete with the apparently unpalatable desert yellowhead plants.

To protect the desert yellowhead from activity involving livestock and wild horse management, the Bureau is committed to (1) not increasing current permitted [livestock] stocking levels, (2) not approving location of mineral supplements or additional water sources for livestock, wild horses, or wildlife on public lands within 2 miles of the desert yellowhead site, (3) allowing supplemental feeding or straw within the grazing allotment only with proper authorization, (4) not allowing livestock herding within 0.5 mile of the desert yellowhead site, or its designated critical habitat, (5) and not conducting wild horse management actions (e.g., temporary gathering/holding facilities) within desert yellowhead designated critical habitat.

According to the Bureau, grazing and wild horse management actions, as presented in the Lander RMP, may affect, and are likely to adversely affect individual desert yellowhead plants. However, current livestock grazing practices at the site have not proven detrimental to the population (BLM 2004).

Summary

It is anticipated that actions potentially-authorized under the Lander RMP if undertaken could result in negative impacts to the desert yellowhead due to harm, destruction, or reduction in fitness of individual plants. Livestock Grazing Management according to the Lander RMP could lead to trampling, crushing, or removing vegetative parts of individual desert yellowhead plants.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal Actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The exact cumulative effects on the desert yellowhead are not known due to the lack of specific information on future state, local, or private actions in the Lander RMP area. The known habitat

of the desert yellowhead is contained completely on land administered by the Bureau of Land Management. Therefore, future state, local, or private actions which were to occur within the site are expected to conform with current Bureau policies. In any case, any future federal actions that occur within the Wyoming Bureau RMP areas will be evaluated at a site-specific level.

CONCLUSION

After reviewing the current status of the desert yellowhead; the environmental baseline for the action area; the effects of the Lander Resource Management Plan and the Bureau-committed conservation measures, and the cumulative effects; it is the Service biological opinion that the direct and indirect effects of the implementation of the Lander RMP with commitment to conservation measures, as proposed, are not likely to jeopardize the continued existence of the desert yellowhead.

The Service has reached this conclusion by considering the following.

1. Annual census efforts have revealed that the population has annual fluctuations in plant numbers which have varied from 9,293 individuals in 1995 to 13,244 individuals in 2000. Although the population does have annual fluctuations, the population has remained fairly stable since its discovery (USFWS 2004c).
2. The Bureau is not proposing to implement any significant changes to the management of the desert yellowhead site that will cause detrimental impacts to the population.
3. The Bureau is committed to ensuring that the desert yellowhead population is not jeopardized by Bureau-authorized activities by implementing protective measures (see Appendix) to minimize and/or eliminate potential impacts to the desert yellowhead population.

INCIDENTAL TAKE

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants from take is provided to the extent that the Act prohibits the removal and reduction to possession of Federally listed plants or the malicious damage of such plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-Federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations (CR) are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information. The recommendations provided here relate only to

the proposed action and do not necessarily represent complete fulfillment of the agency's section 7 responsibility for these species.

- CR1. The Service recommends that the Bureau adhere to the Best Management Practices listed in the Appendix.
- CR2. The Service recommends that the Bureau include the Service in land use planning efforts near the desert yellowhead site.
- CR3. In occupied desert yellowhead habitat, the Service recommends that the Bureau use management actions that are compatible with protection and conservation of pollinators of the desert yellowhead.
- CR4. The Service recommends that the Bureau monitor and manage invasive species so that these do not impact the desert yellowhead.
- CR5. The Service recommends that the Bureau not authorize herbicide use in or adjacent to occupied desert yellowhead habitat without prior review by Service biologists.
- CR6. The Service recommends that the Bureau maintain the road closure for the desert yellowhead site indefinitely.

RE-INITIATION NOTICE

This concludes formal consultation of the actions outlined in the request. As provided in 50 Section 402.16, re-initiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been maintained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing take must cease pending re-initiation.

Thank you for your assistance in the conservation of this endangered species. In future communications regarding this Biological Opinion, please refer to consultation number ES-6-WY.04-F022. If we may be of further assistance, please contact Alex Schubert of my staff at (307) 772-2374, extension 38.

cc: BLM, Endangered Species Coordinator, State Office, Cheyenne, WY (J. Carroll)
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APPENDIX – CONSERVATION STRATEGIES FROM DESERT YELLOWHEAD BIOLOGICAL ASSESSMENT AND SUPPORTING DOCUMENTS

These conservation strategies are taken from the Desert Yellowhead Statewide Programmatic Biological Assessment (2004) and supporting documents. Implementation of the following conservation strategies is intended to minimize, or eliminate, adverse impacts to the desert yellowhead that are likely to result from implementation of the management actions provided in the Lander Resource Management Plan (RMP). In addition to the Existing Measures 1 through 6 in the Lander RMP, the Bureau has committed to implement Conservation Measures 1 through 9. The Bureau also will consider implementing Best Management Practices (BMPs) 1 through 7 to further protect the desert yellowhead and critical habitat. All conservation measures and BMPs apply to the known population of desert yellowhead and its critical habitat. In the event new populations are discovered, these measures would apply to the individual plants, including a 0.5-mile buffer around the new site until further investigation and consultation results in more appropriate management buffers.

Existing Protections in the Lander RMP

1. No activities will be permitted in habitat for Threatened and Endangered Species that will jeopardize the continued existence of such species (Lander RMP, p. 31).
2. No critical habitat will be exchanged or sold (Record of Decision, page 37, Map 19).
3. Off-Road Vehicle use in this area is restricted to existing roads and vehicle routes (Lander RMP, p. 162; Record of Decision, p. 36).
4. Under the most recent version of the Southern Zone Suppression Plan (February 9, 2005), the desert yellowhead and its critical habitat are protected under the assigned suppression category where wildland fire is desired to manage ecosystems. The special considerations for the site specifically prohibit the use of heavy equipment, slurry dumps, or off-road travel. Initial attack would consist of handcrews using conventional tools with no vehicle travel allowed within the critical habitat. Suppression will be done using Minimal Impact Suppression Tactics (MIST), with minimal spading or other surface disturbance. Should a fire occur in this area, the dispatcher is responsible for relaying this information to the firefighters (Record of Decision, page 38).
5. Institute a No Surface Occupancy (NSO) restriction on designated desert yellowhead critical habitat for any possible future leases (Lander RMP, p. 31; Record of Decision, p. 32).
6. An emergency road closure for the trail leading to the desert yellowhead site and roads within the designated critical habitat was signed March 16, 2005 due to a surge of locatable mineral activity surrounding a very large opal deposit a few miles north of the desert yellowhead site (Jeff Carroll, Personal Communication; e-mail dated March 17, 2005).

Conservation Measures Committed to by the Bureau

1. The Bureau agrees to withdraw the designated 360 acre critical habitat area from mineral location and entry under the General Mining Law of 1872.
2. The Bureau will not increase current permitted [livestock] stocking levels.
3. The Bureau will not approve placement of mineral supplements or additional water sources for livestock, wild horses, or wildlife on public lands within 2 miles of the site.
4. No supplemental feeding or straw placement can be done without proper authorization (43 Code of Federal Regulations 4140 (a)(3)). Livestock will not be intentionally herded within 0.5 mile of the desert yellowhead site, or in designated critical habitat.
5. The Bureau will work with all interested parties in the development and implementation of a monitoring plan for the desert yellowhead and its designated critical habitat. The plan will include regular patrol of the site for unlawful uses of the land, and the monitoring of invasive weed populations. This plan will also include, but is not limited to, the inventory and monitoring of all vehicle access to the area for the purpose of restricting access of vehicles that pose a threat to the desert yellowhead population.
6. Prohibit biological control of weeds in desert yellowhead habitat until the impact of the control agent has been fully evaluated and determined not to adversely affect the plant population. The Bureau will monitor biological control vectors.
7. Apply a Condition-of-Approval (COA) on all Applications-for-Permit-to-Drill (APDs) within the desert yellowhead site and designated critical habitat, prohibiting all surface-disturbing activities.
8. Prohibit the disposal of salable minerals in designated desert yellowhead critical habitat.
9. The Bureau will not conduct wild horse management actions (e.g., temporary gathering/holding facilities) within designated critical habitat.

Best Management Practices

The following BMPs are to be considered on a case-by-case basis at the project level, and implemented where appropriate, to further protect the desert yellowhead and its designated critical habitat.

1. Analyze vegetation resource management actions when appropriate.
2. Conduct inventories for desert yellowhead in areas with potential habitat in the Lander Field Office.
3. Use a Geographic Information System (GIS)-based model of potential habitat.

4. Maintain a database of all searched potential desert yellowhead sites.
5. Train enforcement personnel on protection of the desert yellowhead and its habitat, status, and current threats.
6. Educate the resource specialists, the ranger, and the fire crew about the desert yellowhead site and its designated critical habitat to assist in project development for the general area.
7. Do not feature the desert yellowhead site in public information or recreational brochures in any form that will draw attention to the site.